Technical Data
Data Sheet 2969, Rev. -

163CMQ...SERIES SCHOTTKY RECTIFIER

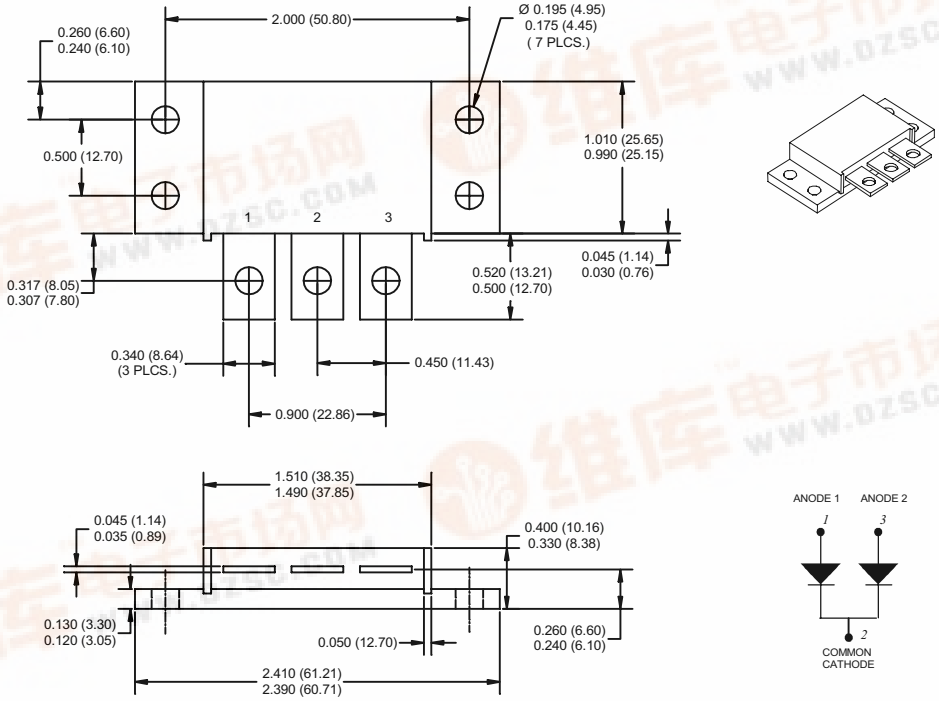
Applications:

• Switching power supply • Free-Wheeling diodes • Reverse battery protection • Converters

Features:

- 175 °C T_J operation
- Isolated heatsink
- Low profile, high current package
- Center tap module
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Mechanical Dimensions: In Inches / mm



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	80	163CMQ080	V
			100	163CMQ100	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C = 87 °C, rectangular wave form	160		A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	960		A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	T_J = 25 °C, I_{AS} = 1 A, L = 30mH	15		mJ
Repetieive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 µsec Frequency Limited by T_J max. V_A = 1.5 x V_R typical	1		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 80 A, Pulse, T_J = 25 °C @ 160 A, Pulse, T_J = 25 °C	0.98 1.17	V
	V_{F2}	@ 80 A, Pulse, T_J = 125 °C @ 160 A, Pulse, T_J = 125 °C	0.80 0.96	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.5	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	20	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5 V, T_C = 25 °C f_{SIG} = 1 MHz,	1400	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/µs

* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	°C
Max. Storage Temperature	T_{stg}	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	1.0	°C/W
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.50	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.10	°C/W
Approximate Weight	wt	-	58	g
Mounting Torque	T_M	-	40 (min) 58 (max)	Kg-cm
Case Style	TO-249AA			

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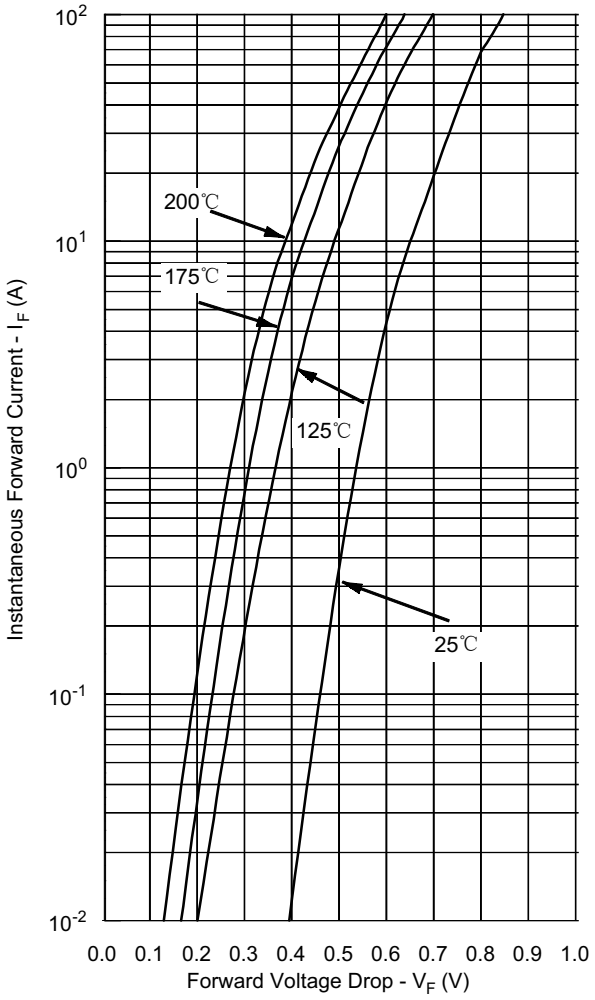
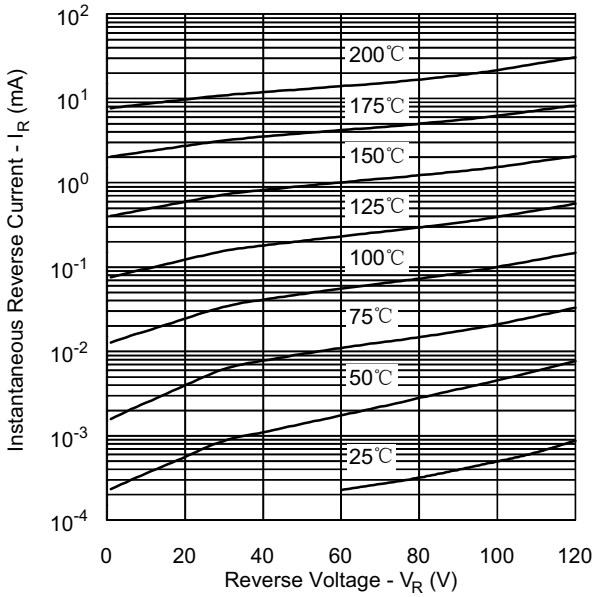
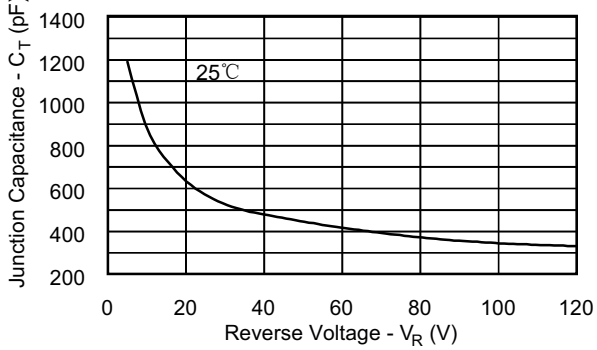
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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TECHNICAL DATA

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